DOCUMENT RESUME

ED 271 578 CE 044 675

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TITLE Current Issues and Concerns in Scottish Vocational Education Research and Development. Occasional Paper No. 118.
INSTITUTION Ohio State Univ., Columbus. National Center for Research in Vocational Education.
PUB DATE 86
NOTE 28p.
AVAILABLE FROM National Center Publications, National Center for Research in Vocational Education, 1960 Kenny Road, Columbus, OH 43210-1090 (OC118--$3.00).
PUB TYPE Viewpoints (120)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS *Educational Development; *Educational Policy; *Educational Research; Foreign Countries; International Cooperation; *International Educational Exchange; Postsecondary Education; *Relevance (Education); Secondary Education; *Vocational Education
IDENTIFIERS *Scotland

ABSTRACT

Scottish initiatives have been directed at improving the vocational relevance of education. Besides attempting to achieve balance in the curriculum between academic and vocational subjects, a new approach also has significant implications for methodology, involving experience-based and student-centered approaches. International developments impinge upon Scottish educational policy. First, the European governments have collaborated on a number of projects for transition from school to working and adult life. Second, governments have identified particular neighboring countries whose circumstances are similar and whose policies are worth imitating. The position of vocational education and training in Scotland today can be surveyed by referring to three particular client groups: full-time secondary students, young workers, and vocational students involved in further education. Among the strands presently apparent in Scottish vocational education research are development of computer-based career guidance systems, the sociology of vocational education and training, and collaborative research to develop better quality vocational education. The government is beginning to recognize that its traditional policy of gradualism is not sufficient to restore economic health and to keep up with changes in education and training. A model based on people's "ownership" of change is likely to move vocational education in a direction that benefits society. (YLB)

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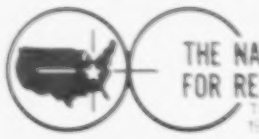

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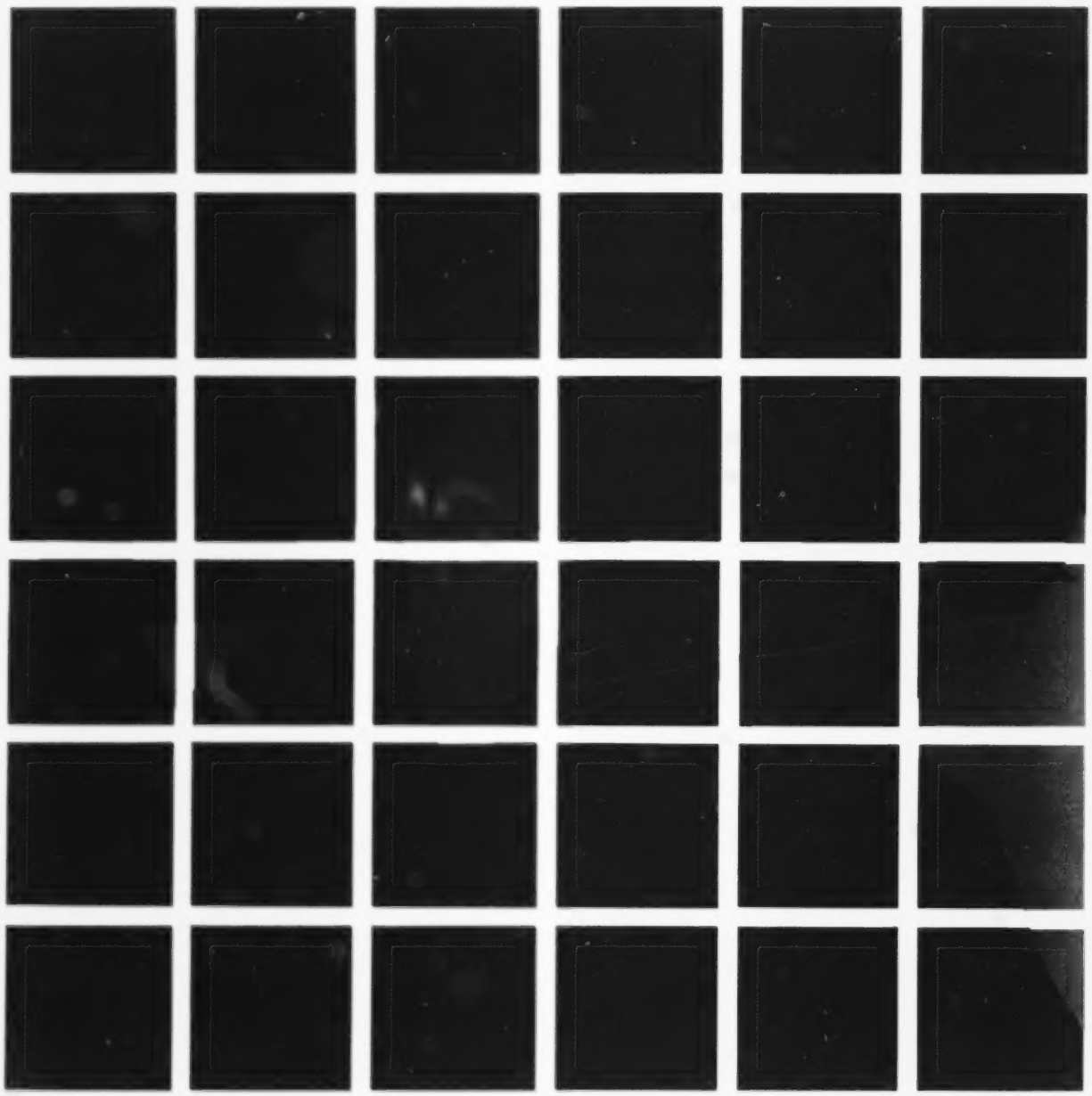

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CURRENT ISSUES AND CONCERNS IN SCOTTISH VOCATIONAL EDUCATION RESEARCH AND DEVELOPMENT

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1986

FOREWORD

In these days of a world economy, many nations face similar problems: serious trade imbalances, worrisome deficit budgets, nagging unemployment, foreign debt, and so forth. Likewise, education and preparation for work are of crucial importance worlwide. Of course, different countries have carried out employment training in different ways, and individual nations constantly search for new approaches to better their system of training for work. Some countries follow a strictly centralized approach to job preparation, but others, like the United States, operate without a unified policy and utlilze a multiple delivery system. It is always informative and wortwhile to hear about other approaches and to see how different nations strive to maintain economic health and competitiveness through education and training.

Douglas Weir is currently director of the Vocational Initiatives Unit of the University of Glasgow. Previously he served as a research officer for the Scottish Council for Research in Education, as a lecturer at the University of Glasgow, and as director of the Scottish Vocational Preparation Unit of Jordanhill College of Education in Glasgow. He was a visiting lecturer at the University of Illinois at Champaign-Urbana in 1980. Educated at the University of Edinburgh, he received an undergraduate degree with honors in history and a Masters degree in occupational psychology.

Weir has held a continuous series of research grants, concerning such topics as guidance in schools, for the Scottish Education Department; youth training in Scotland, for the Manpower Services Commission; and the transition from school to working life, for the European Community. He has served on many committees and panels investigating vocational education in Britain, including the Manpower Services Commission Research Committee, and the Scottish Education Department Task Group on Guidance. He has published extensively, including five books.

On behalf of The Ohio State University and the National Center for Research in Vocational Education, I am pleased to present this seminar paper by Douglas Weir.

Robert E. Taylor
Executive Director

BACKGROUND

In approaching the issue of recent trends in vocational education in Scotland, it is important to understand two matters—what is "Scotland" and what is "recent." Scotland is a modest part of the United Kingdom of Great Britain and Northern Ireland (UK). With a population of just over 5 million, it comprises about 9 percent of the UK population. Just over 2 million of the population work and 350,000 are unemployed. The unemployed proportion, approximately 15 percent of the workforce, is now very similar to that for the UK as a whole. Although historically higher than the UK figure, Scottish unemployment has been rising less steeply recently, despite the international recession. This is due to a number of factors, including offshore oil exploration, the electronics industry, and a trend above the UK norm for young people to prolong their education.

There are 1 million young Scots in full-time or part-time education under the age of 18. Whereas the number of those age 16-18 is low by international standards at about 60 percent of the total age cohort, it is high by UK standards.

It is also important to appreciate that the government of Scotland is, for historical reasons, a mixture of unitary and devolved. Although, for example, there is only one UK Parliament with unitary power over functions such as foreign policy and defense, the Secretary of State for Scotland has devolved powers over law and education in particular, although there is no elected Scottish body to which he is accountable for the administration of these powers. Therefore, Scottish education is completely separate from English education and has its own unique system of curriculum and assessment.

In current circumstances, however, this mixed model of government has become even more complex because of the growing influence over school and college curricula of the government departments of Employment, and of Trade and Industry, both of which have a British remit. However, because these departments are based in London, because they have much more "new" money than the education departments, and because the English education system is 10 times larger than the Scottish system, there is a fear that the autonomy of the Scottish Education Department and the local government authorities who directly administer education will be diminished. The two tensions—between national and local government and between UK ministries and Scottish ministries—are particularly prominent now in the area of vocational education and will therefore constitute a major focus of this publication.

RECENT TRENDS IN SCOTTISH EDUCATION

The current concern to improve the vocational relevance of Scottish education can be clearly dated to its first major public outing in 1963, with the publication of a government report entitled *From School to Further Education* (Scottish Education Department 1963). This report originated from a number of issues, such as the importance of trained manpower to the future of the economy; the need to improve the links between schools and the colleges of further education that were expanding rapidly at that time and had the major responsibility for the vocational education of young people above the minimum school-leaving age (then 15, now 16); and the importance of

a broad education now that schools were moving toward a unitary system where the whole local population attended 1 school rather than being divided, on grounds of ability, between 2 different types of schools.

That report saw the importance to most young people of the "vocational impulse," where young people of secondary—i.e., high school age—had an instrumental view of schooling as fitting them for employment. It recommended accordingly that "in all appropriate subjects considerable importance should be attached to practical aspects and to illustrations from the field of employment in the selection of material to be taught" (Scottish Education Department 1963, para. 91). Moreover, the report stressed the importance of experience-based methods because "young people taught by these methods become keen and interested, unwilling to be passive, and are ready to take up new interests and activities. These methods appeal to young people and generally lead to improved attitudes and conduct and an added willingness to continue their education" (para. 102).

That report was aimed at the lower 65 percent of the secondary school age cohort and, although recommending much that is now everyday practice in education, was not received with any enthusiasm at the time. The teachers and parents seemed much more anxious to improve the quality of the certificates gained by young people by the students taking more academic courses than they were in improving the quality of learning achieved by them taking more vocational courses. Nevertheless, the themes raised by *From School to Further Education* remained a major focus for some teachers and researchers during the next two decades.

Education theory may have failed to improve the vocational emphasis of Scottish schools, but the separate further education colleges with their exclusively vocational emphasis flourished. Then as the competitiveness of the British economy continued to decline and youth unemployment rose quickly, by the mid 1970s, a new initiative in vocational education was required.

This second initiative is usually dated from a major speech by then British Prime Minister, James Callaghan, at Ruskin College, Oxford, in 1976 when he appealed for more relevance in school and college education. He said that the aims of education were "to equip children to the best of their ability for a lively, constructive place in society and also to fit them for a job of work. Not one or the other, but both."

A number of separate initiatives were launched as a result of this concern. The most notable vocational education outcomes were from the Schools Council Industry Project in England and Wales and Scotland's Education for the Industrial Society Project. These projects attempted to infuse the whole curriculum with vocationally relevant material and have already produced much of value. An interesting difference of approach was evident between the countries on the models of research and development used in these projects. England chose a strong, full-time, central team with a research director as a member, while Scotland chose to develop most of their products by committees, both national and local, with almost no research or evaluation and what little they did include on a "post hoc" basis. That difference is general, not just relevant to these projects, and will be discussed later.

Although Scotland may seem to have lagged behind in that particular approach to education-industry links it did, however, forge ahead in changing the whole curriculum, not just its industry links. Through two major committees, one on curriculum and the other on assessment, it attempted to ensure that all young people could reach the end of compulsory schooling with a certificate based on experience in all major areas of the curriculum—languages, science, social subjects, technology, and so forth. Whereas the progress made was slow, as is often the case, the first

certificates from the core elements of the new curriculum—English, mathematics, science—will be awarded in 1986, with the remainder of the subjects to be included in succeeding years.

The need for changes in the school curriculum can be seen by examining the pattern of certificate subjects that young Scots (age 16) were offered in 1985 (just before the availability of the new certificates). The number of pupils enrolled in the more academic subjects was as follows:

Subject	Number of Pupils
English	72,948
Mathematics	43,554
Chemistry	24,068
Biology	26,708
Physics	23,133
French	24,561
Geography	23,578

The figures for the obviously vocational subjects showed the following:

Subject	Number of Pupils
Art and design	17,919
Secretarial studies	17,797
Home economics	13,214
Technical drawing	10,847

Besides attempting to achieve balance in the curriculum between academic and vocational subjects, the new approach also has significant implications for methodology, involving experience-based and student-centered approaches, both in school and out of school. No similar changes have yet been made in school education in England, although they are presently under discussion. The reason for these differences is interesting, based as it is on the smaller size of Scotland and the tradition of greater influence over education by the Scottish Education Department and the central bodies within the education community that it sets up.

Although these changes are under way in school, similar significant postschool changes are under way, principally in response to rising youth unemployment and industry's claim that young labor was not adequately trained and could not be without government intervention. The British government decided that their response to these needs should come from the Manpower Services Commission (MSC), a British agency that tries to take account of the different education and training patterns of young people in Scotland and in England and respond appropriately to them.

A key initiative in this field was published by MSC as *Young People and Work* (1977), which responded to youth unemployment by setting up 12-month schemes of work experience, training, and education for unemployed school leavers. Another was *A New Training Initiative* (Department of Employment 1981), which also took on the needs of industry for skilled manpower. However, this is massive intervention by a noneducation agency that impinges severely on the provision of postschool education by including that area as part of MSC programs.

The key statement in *Young People and Work* was that "we have little doubt that an investment in helping young people to acquire relevant skills and knowledge, abilities and attitudes will yield handsome returns and should rank high in the country's priorities" (MSC 1977).

For the *New Training Initiative*, priorities were—

- to develop skill training, including apprenticeship, in such a way that young people entering at different ages and with different educational attainments can acquire agreed standards of skill appropriate to the jobs available and to provide them with a basis for progress through further learning,
- to move toward a position where all young people under the age of 18 have the opportunity either of continuing in full-time education or of entering a period of planned
- work experience combined with work-related training and education;
- to open widespread opportunities for adults—whether employed or returning to work—to acquire, increase, or update their skills and knowledge during the course of their working lives.

When Keith Hampson, a British Member of Parliament, spoke here at the National Center in 1984, he set out the picture as it stood in terms of that new training initiative and summarized the British government's other concerns to improve the vocational emphasis in school education and to stimulate an "enterprise culture" among young people and adults alike. Before taking further the picture Hampson began to paint, it is important to see how Britian, and Scotland in particular, draws on the practices of other countries in developing its vocational education and training programs. Is there, for example, an insularity as suggested by one of Hampson's questioners, who commented:

> In the United States there is a much greater emphasis on teaching the principles of science of mathematics, and on using vocational education as a means of teaching, not as an end in itself. The UK, it appears, is putting a greater stress on teaching specifics. (Hampson 1985)

INTERNATIONAL MESSAGES

No national system of vocational education and training develops in isolation. In an era of common language, easy travel, and mass media, countries are more susceptible than before to events beyond their immediate borders. This is as true for Scotland and Britain as it is for any other country. Before considering the point that Scotland has now reached, therefore, it would be useful to trace some international developments that impinge upon our domestic thinking.

There is no doubt that mass youth unemployment in Europe has forced governments to talk together about policies. Two particular aspects of that are relevant.

First, the European governments have collaborated on a number of "transition-from-school-to-working and adult-life" projects, where a variety of approaches have been tried and a series of papers produced on a cross-national basis as a means of informing future policy. Scotland has participated in this exercise and some comments on this, from a research perspective, will be made later.

Second, in the course of these cross-national experiments, governments have identified particular neighboring countries whose circumstances are similar and whose policies are worth imitating. In this regard, Scotland and the rest of Britain diverge. The British government, and especially

the MSC, sees West Germany as an example to be imitated, a country to be held up as a model of economic health. Their imitation is also influenced by the fact that the English education system still makes greater use of selection at 16 into work, training, or specific vocational education. The Germans are the leading exponents of vocational education, with 65 percent of their young people leaving the basic school for vocational education and training. The MSC is therefore encouraging employers, as the Germans do, to take on the principal responsibility for the vocational education and training of young people.

Scots, by reason of their ethnic background, which has large traces of Viking influence, and the size and rugged topography of their country, are equally interested in Scandinavian models. Such countries as Denmark and Sweden still make a greater use of the school in its upper-secondary phases as a resource both for the continuation of general education and for increasing the vocational element in the curriculum. Many Scots see value in full-time education in school and college beyond the age of 16, especially when more than half of young people stay in school beyond the minimum leaving age.

It would be simplistic, however, to assume only one set of external influences over national policies. The situation in Scotland and the rest of Britain is still fluid, and attention is paid to comments such as those from a European Community institution that warns against marginalization and alienation of young people by placing them in a youth training ghetto where they have neither the accepted status of "student" nor that of "worker" and that says "the need [is] for the development of an integrated programme for education, training and employment [for all]" (European Centre for the Development of Vocational Training [CEDEFOP] 1983).

The same organization says that the German model can be taken too far and can lead to a too narrow specialization too quickly, commenting that "training is much more than the acquisition of a narrow range of skills. It involves general education in some cases and management of people and resources integrated into technical studies in others" (CEDEFOP 1984).

Even more influential has been a study recently commissioned by MSC itself that asked for an examination of vocational education and training in West Germany, the United States, and Japan (Institute of Manpower Studies [IMS] 1984). Although the report reached few novel conclusions about West Germany, the sections on Japan are already causing some policymakers to reflect on whether Britain has anything to learn from the Japanese. For they have no vocational education in compulsory school; even in the upper secondary school, vocational education is limited. The Japanese employer seeks an 18-year-old who is a well socialized but vocationally adaptable "blank sheet." As a leading Japanese employer said, "What we want is good people; we can make anybody an engineer. But the best engineer in the world needs to be able to work with others to be effective" (IMS 1984).

In a similar manner, in a British government whose Secretary of State for Employment, Lord Young, is an open supporter of the U.S. economy that in the past decade has created 22 million new jobs while Europe shows a net loss of 2 million jobs in the same period, and who also sees manufacturing industry in the U.S. declining by the year 2010 to only 4-5 percent of all workers, and who advocates that Britain adopt the "enterprise culture" that is the source of the economic strength of the United States, there must be some interest in the report's comments on the breadth of the U.S. education and training system, where "the aim is to develop people who are broadly competent, who can sell themselves to employers and who can learn and work in a team" (IMS 1984). A British report, which concludes that the U.S. education and training system has delivered a broadly educated and trained work force willing to learn and adapt in order to compete, must then also take note of contemporary comment by U.S. citizens. For instance, N.L. McCaslin of the

National Center reminded a Scottish audience recently that "four out of every five students aged 14-21 in the U.S. take at least one course in vocational education," and "The general public, employers and legislators view vocational education favorably. However, they think it should be more closely linked to business, increase its attention on basic and employability skills, provide actual work experience as part of the program, and keep updating vocational programs" (McCaslin 1984).

These are among the influences currently being considered by British policymakers, but solutions to vocational education and training problems are not derived from program and system models alone. They must also be derived from factors internal to these programs and systems.

The debate in Britain revolves around the following: "The aims of education and training in other countries are explicit. They consciously have such training objectives as team work, flexibility and the desire to learn. In the UK, the tendency is to regard these as personal qualities rather than vocational outcomes" (IMS 1984).

The issue of seeing the development of personal qualities as a legitimate objective of vocational education has reached the senior employers' body in Britain—the Confederation of British Industry (CBI).

> The CBI shares the view that qualifications alone are not sufficient to ensure success in a job and that personal qualities are equally important. It also believes that knowledge and skills are valuable but not sufficient without the competence to apply them in a working situation. There is however, and not only in the CBI, a reluctance to make such outcomes explicitly a part of education and training. They are not thought of as "vocational" and the fact that their possession cannot be tested or measured in traditional examinations makes them difficult to handle in the British culture (IMS 1984, p. 86)

At least the debate is on. Throughout Britain there is a welcome flourishing of an experience-based learning movement, associated with a recognition of the importance for a modern society of developing in young people such traits as autonomy, responsibility, team work, participation, and so forth.

The shift to experience-based learning is further reinforced by international experience of learning by participation (LBP). Writing about this, Bruce Dollar, recently associate director of the U.S. National Commission on Resources for Youth, says:

> Vocational or vocational-technical education is concerned with providing occupational skills, and is more directly concerned with giving young people advanced training and thus a head start in the occupation the student chooses. Whereas an LBP program may well expose young people to occupations they might choose, it also emphasizes the cultivation of more generalized personal skills and resources such as responsibility, decision making, compassion and cooperation. In fact, an LBP program may be seen as an opportunity for youth to be exposed to jobs in institutions they are not likely to choose, as a means of deepening young people's understanding of their community. LBP may also be integrated with the academic study of a related field, such as social sciences, and may readily be linked with development in the affective domain, including understanding values, group processes and personal problem-solving—areas that are not usually encompassed by the vocational curriculum (Dollar 1983, p. 155).

It is important to note, however, that those of us in vocational education who support LBP are not using its objectives as alternatives to the basic goals of vocational education, but only as a better means of attaining these goals. As Hedin (1980) and many others have said, LBP still sees as its targets the acquisition of—

- basic skills such as reading and writing,
- complex skills such as problem solving,
- interpersonal skills such as giving and receiving feedback,
- saleable skills such as typing and welding,
- psychological and social maturity.

The real problem with learning by participation is that it emphasizes cooperation, and that may run counter to, for example, the current British government's desire to reduce unemployment by encouraging thousands of people, young and old alike, to set up their own businesses. Inevitably, these businesses would compete with each other.

Therefore, we have now reached the point of recognizing a number of paradoxes that vocational educators in Scotland have to try to reconcile. These are as follows:

- How Scotland can maintain its distinctive educational tradition while remaining part of Britain.
- How the different perspectives of a Scottish Education Department and a British Manpower Services Commission can be integrated.
- How the various international standpoints on both the structure and philosophy of vocational education and training can be reconciled and reproduced as distinctively Scottish.

In dealing with these paradoxes, the focus shifts to consider the contemporary scene in Scotland within Britain.

CURRENT DEVELOPMENTS

The position of vocational education and training in Scotland today can be surveyed by referring to three particular client groups:

- Young people aged 14-18 attending school full-time
- Young people aged 16 and older seeking to enter the labor market
- Young people aged 16 and older involved in continuing education on a full-time or part-time basis

Although these categories are not mutually exclusive, they offer an organizing framework for understanding the provision of education and training.

Full-time Students

In the late 1970s, based upon the major reports on curriculum (Consultative Committee on the Curriculum 1977) and assessment (Scottish Education Department 1977), school education in Scotland set out on a path that it is still pursuing. The major components of the system were—

- that the curriculum be divided into eight "modes" of study (linguistic, scientific, moral, religious, and so forth) that all young people should pursue, thus addressing and attempting to rectify the biases in one direction or another that currently prevail;

- that assessment be biased away from norm-referencing toward criterion-referencing, where attainment would be measured on a scale of 7 (lowest) to 1 (highest), with each scale point being described in criterion terms.

That development, although slowed by industrial action from teachers who feel they are inadequately paid for the major changes in content and examining procedures in which they are involved, is still the official path along which Scottish education is moving and within which vocational education has to be located.

Locating vocational education within the system is accomplished in three ways: (1) moving toward parity of esteem between academic and vocational courses; (2) providing additional resources to mount new courses in computing and technology, for example; and (3) developing courses that marry the personal development and skills development objectives. One such course entitled Social and Vocational Skills is described later.

At the same time, however, the schooling system in England has not made the same progress toward updating its curriculum and assessment. This has caused the government, through the MSC, to bring in its own version of curriculum change. That version, called the Technical and Vocational Education Initiative (TVEI), offers local education authorities large sums of money over a period of 5 years, within the years 1983-92, to introduce specifically vocational courses on a pilot basis. Since the MSC has a "Great Britain" responsibility, the same grants of money have been offered to Scottish local government authorities, most of whom have now indicated their desire to participate in TVEI.

In England, TVEI is being introduced into an educational system that has no coherent plan, and is therefore causing many educationalists to fear a "takeover" and distortion of the curriculum in the direction of industrial training. In Scotland, however, the new educational philosophy is well established and MSC has had to accept that they cannot change the whole curriculum and may have to settle for a modest expansion of vocationally relevant resources and approaches that are already appearing within an ongoing program of curriculum development.

What this means for Scottish schools and young people is that within the overall balance of the curriculum, all subjects can benefit from new resources and materials offered by MSC, introduced on a pilot basis in a few schools and then hopefully replicated in many more. New subjects such as technology and and computing, or new approaches such as the microprocessor in business studies, satellite access to foreign language radio and television, and computer-controlled engineering processes, can all be introduced on this pilot basis with the intention of ensuring that all pupils achieve a genuine balance of academic and vocational courses rather than a predominantly academic course with the minimum of study in other "modes," and vice versa. In this area, therefore, it is possible to foresee the Scottish and British education and manpower interests coming together in a way that is supportive of our native Scottish desires for effective education and in a form that is transportable throughout Britain.

The conceptual structure used in Britain to describe all the efforts to improve the interface between education and work is called "vocational preparation." Whereas there is a move toward coherence in this new field, the present state of provision is diffuse, as shown in the following:

> It is possible to identify five different ways in which vocational preparation has been introduced into the school curriculum:
>
> - By the inclusion of appropriate content and method into normal curriculum subjects
> - By the introduction of a new subject directly aimed at vocational preparation
> - By the development of a whole curriculum in which most subjects are slanted toward vocational preparation
> - By the shift of courses into a technical/vocational institute
> - By the provision of occasional activities not closely linked to the normal curricuum (McMullen 1985, p. 8)

Young Workers

Since 1978, the MSC has been making special provision for young unemployed workers through grants for local schemes of training, education, and work experience. Since 1983, these grants have been available for 16- to 17-year-old unemployed and young workers alike under a program called the Youth Training Scheme (YTS). This 1-year grant will be extended to 2 years from April 1986. Through it, all young people aged 16-18 not in full-time education can become trainees and be placed predominantly in local workplaces. In a sense, therefore, entry to the labor market in Britain has now been delayed to age 18.

Although criticized as a deliberate attempt to reduce wage rates; as a subsidy to employers; as a method of exploiting young people; or in terms such as "only work-oriented skills are now seen as important by this Government. . . . Personal development is seen as a luxury not to be encouraged, or supported by public money" (St. John-Brooks 1985), YTS is a speedy and imaginative approach both to youth unemployment and the poor quality of training of young workers. What critics of YTS seem to be unwilling to recognize is the low level of awareness of education and training needs among British employers. Therefore, the gap between the high intentions of MSC for YTS and the low quality of some YTS schemes as delivered by employers is not because MSC's intentions are mere "window dressing" to win internatioal acclaim, but because they wish to set real targets for the vocational education and training system that they will help employers move toward.

In terms of intentions, YTS foresees a postindustrial economy where personal attributes are as important as technical skills. Therefore, it has produced a framework (MSC 1985, figure 1) which, for those who wish to cease full-time education at 16, offers the prospect of another legitimate form of vocational education and training. In terms of this publication, however, that framework makes no acknowledgement of Scotland's distinctiveness. If it is to have the impact it deserves, the branch of MSC running YTS must pay closer attention to Scotland's progress in providing school and college courses, the same closer attention that the other branch of MSC running TVEI does.

Vocational Students Involved in Continuing Education

The dominant pathway into employment in Britain has been through full-time or part-time study at technical/vocational institutes, normally called colleges of further education. Up to half of the 16-year-olds leave school and attend such colleges to receive vocational education relevant to specified occupations. In keeping with the concern of the British government for the relevance of all education, this branch of the education system is also undergoing significant changes. In England and Wales, the government announced that progress was so dramatically required that MSC would be given authority to specify how up to 25 percent of the funds for further education would be spent (Her Majesty's Stationery Office 1984). Despite cries that employers and their agent (MSC) were being given freedom while education was being constrained, English further education is now well down this path of external control.

In Scotland, however, the education service had anticipated the need for change, without MSC intervention, and had launched an Action Plan (Scottish Education Department 1983) that pointed to the need to offer the following:

> To young people—greater motivation, choice and scope for development in what they learn in education, training, or work; preparation to increase a young person's capability of being employed, possibly in several careers in his lifetime rather than the provision of direct training for a specific job; the development of social and interpersonal skills in the individual to equip him/her for adult responsibilties and working life;
>
> To industry and employers—a wide range of skills which can be developed and assessed as a basis for present and future employment needs and are adaptable to technological change;
>
> To schools and colleges—a more flexible and co-ordinated system of courses and certificates which meets a wider range of needs and permits better use of available resources.

The new framework set out in the Action Plan proposed (Scottish Information Office 1985) is thus:

(a) New courses based upon a collection of learning unitsor "models," usually of 40 hours study, to replace present nonadvanced courses in Scotland;

(b) A new national 16-18 certificate for students and trainees taking the new courses;

(c) A range of points of entry to and exit from education and training, with greater freedom of choice for young people;

(d) Better opportunities to change areas of study with recognition given for earlier achievement;

(e) Closer links between schools and further education colleges and between education and training schemes, designed to prepare young people for working life or to equip them with skills for employment (p. 4)

This new type of provision now being offered, although perhaps commonplace in North America where notions such as credit transfer are long established, has been hailed throughout Britain and Europe as a significant breakthrough. Certainly the system has retained control of

vocational education in the hands of the education service, but at a price. In order to gain employer approval, the emphasis on training for skills in these programs of modular study far outweighs the emphasis on personal development. In order to bring about change before MSC intervened, consultations with local stakeholders over development and implementation were too brief. Nevertheless, Scottish vocational education is now the envy of the English.

This section has simplified a complex system. A more detailed presentation would have to bring out the contribution that colleges and schools make to each other's mainstream of work and the contribution of colleges to the YTS. But the basic outline is as described, within which the rhetoric of change is toward personal development goals, while the practice of change still lags behind.

Before discussing the contribution of research to these developments, it is salutary to point out how the current developments in Scotland are being slowed by teacher reactions. It is impossible to implement such rapid and dramatic systemwide changes without teacher goodwill and without resources, and yet the British government is attempting that impossibility and thus causing skeptics to doubt the sincerity of its intentions. In another context Silberman (1983) has summarized the issues in a way that every Scottish school and college teacher would endorse:

> I agree with current proposals to eliminate tracking, but placing everyone in academic courses will not suffice. All students should have both academic and vocational courses, perhaps fewer of each. The emphasis should be on making those courses more interesting and increasing depth of understanding rather than breadth of coverage. The primary goal should be to maximize the transferability of intrinsic outcomes. Where schools are concerned, that is accomplished by changing the way such courses are taught, and that will only occur if teacher-student ratios change, if teacher compensation levels change, and if adequate time and facilities are provided. It is not possible to operate an educational enterprise with a custodial level budget and staffing structure (p. 15).

THE RESEARCHER'S CONTRIBUTION

Educational research in Scotland has a distinguished past, starting with the founding in 1928 of one of the first national research agencies, the Scottish Council for Research in Education. This was followed by the mental testing era when Godfrey Thomson, with his Moray House tests, was a pioneer; then in the 1970s Parlett and Hamilton made the breakthrough of "evaluation as illumination." Vocational education research played a part in all of these phases, especially in the last 10 years when all the program and policy developments previously mentioned have been given priority and have become very prominent.

A number of particular strands are presently apparent in Scottish vocational education research. For instance, Jim Closs at the University of Edinburgh has been developing and improving computer-based systems for career guidance since 1970. The importance of his work lies not only in the quality of the occupational database that he has built up and against which young people can test their occupational interests, abilities, and aspirations, but also in the emphasis that he places on pupils being exposed to chances for growth in career guidance during school time. This database, JIIG-CAL, is a process of pupil interrogation of an occupational database, embedded in a structured program of personal development through career guidance.

Andrew McPherson, also at the University of Edinburgh, has been working with his colleagues to sharpen our awareness of the sociology of vocational education and training. MacPherson has

built the Scottish Educational Data Archive, which provides time-series data on the attainments and attitudes of school leavers in Scotland. His work in this field and the manner in which he has presented the failings of the previous system through young people's own words (Gow and McPherson 1980) and his impeccable statistics, is clearly one of the causes of recent changes in provisions for students of all ages. But MacPherson has made two other major contributions to research and development; first, by his own personal interest and writing (McPherson 1984) about the distribution of power and authority within Scottish education; and second, by the way he has stimulated "collaborative research."

That second function has been carried through by allowing anyone access, after training, to the data archive and its qualitative and quantitative material. Out of this has grown a network of teachers and others who are not only more familiar with the tools of research, but who, by having produced their own analyses of specific educational effects, are better able to challenge the "received wisdom" of the educational establishment. Therefore, during the last 10 years of the archive's existence, there has been a healthy growth of teachers who can critically interrogate public policy.

The collaborative style of McPherson and his colleagues is also a key feature of the work of me and my colleagues. Over the past 15 years and from various bases, we have been particularly concerned with the use of research to develop better quality vocational education. In that endeavor we have believed that unless the various stakeholders are involved in and committed to the research and development process, the researchers' work eventually comes to nothing. Just as Floyd McKinney (1985) has discovered about "critical evaluation," this participative style has two consequences—more time is required and the conventional gatekeepers (superintendents, politicians, and so forth) are concerned that their control over knowledge is dissipated.

But we have no doubt that there is no alternative to involving local participants; thus—

> course development should concentrate on flexibility and responsiveness to the needs of the learner. That means rejecting the re-emerging pattern of "courses - for - target - groups". It means basing course development on local practitioner-based models. And it means a far greater stress on specifying procedures for learning rather than the minutiae of examinable content. (Scottish Vocational Preparation Unit 1983, p. 48)

Those emphases on local models concentrating on effective learning were tested out as follows:

> The role of the researchers therefore became that of participating in a continuous process of reviewing ideas in practice, clarifying the problems and questions which arose, in the light of that practice and assisting in the reframing of the ideas so that they could in turn be implemented. This role implied a two-pronged strategy of observing and participating in the work of the schools, and of providing the means for the teachers to come together away from their schools with time to consider the evidence . . . , and to decide on how to take the next step forward. (Currie and Weir 1985, p. 19)

That quotation comes from a description of a unique R&D project. Within its curriculum and assessment program for the secondary school, the Scottish Education Department decided to include a new cross-disciplinary course designed to stimulate both the social and vocational aspects of "preparation for working life." To launch that course, the officers of the department created a unique partnership with our R&D unit, out of which an exciting collaborative approach emerged, stimulating teachers and pupils alike and gaining international applause. Whether that

approach to the course, Social and Vocational Skills, was successful because no academic pupils were involved and therefore the experimentation was permitted because there was no risk to the certificate prospects of those aiming for university, we shall never know. Nevertheless, the experiment itself confirmed the utility of certain development models that we hope the officers of the Scottish Education Department will look to if their more normal centralist models of development founder.

The success of our models is well represented in our most recent publication, where we describe an "action research" project that focused on work experience for school pupils. That project was local, stakeholder-oriented, and developmental, such that:

> There is ample evidence that this approach meets pupils' real needs. From pupil judgements, parents' comments, careers, officers' remarks, teachers' perceptions and informal feedback from employers and other community members, it is evident that pupils not only develop and expand on their existing networks but are more self-confident and effective in their dealings with more formal or distant workplaces, agencies, or other social sites. (Vocational Initiatives Unit 1985, p. 19)

So far, however, I have described the work of successful and long-established researchers. They tend to be able to find money to continue their work even in the midst of financial cutbacks and to pursue their own choice of projects. But what of the less well established, those whose sources of funding may constrain the choice of projects, limiting it to those that are favored by politicians or civil servants?

Many researchers are worried by current trends throughout Britain. Not only has there been a decrease over 5 years, of about 25 percent in the money available for research that private industry and charitable trusts cannot make up, not only have the planning units within the central government that provided the interface with the research community been reorganized, but the whole emphasis of funded research has changed to a fairly narrow focus on policy-dictated research, causing one anonymous researcher to say recently, "It is servile—more like plumbing than research."

There are many explanations for this present malaise, but among them are two of persuasive appeal:

- The Thatcher government is very nervous about criticisms of its policies and recognizes that without keeping them on a tight rein, researchers might well criticize the "new vocationalism" of the MSC or the Action Plan, for example.

- The British government is in a hurry to rescue the British economy and cannot afford the luxury of waiting on the researchers' pronouncements, whether they applaud or criticize the choice of policies and their application.

There are still funds available from MSC and the Scottish Education Department for vocational education research and major projects are commencing into the Action Plan and TVEI in Scotland, with others continuing to inquire into secondary school curriculum/assessment and YTS. Nevertheless, those involved in such projects are steered away from asking fundamental questions about whether a particular policy or program is the best one available, confining themselves rather to more mundane questions about how well the government's preferred program is being implemented. For instance, it is alleged that "MSC has shown a marked reluctance to acknowledge research, development or certification which it has not itself commissioned" (Pratley 1985). Even if

researchers were to ask more fundamental questions and come up with disturbing answers, they know that the government could simply refuse permission to publish their reports.

Governments do, however, rise and fall and the volume of overall research funding with them. The depth of the Scottish educational research tradition is such that its longest established proponents will continue to ask more fundamental questions. Furthermore, one encouraging trend is emerging as some R&D "goes local." Not only is there such a diversity of need and provision in the different parts of Scotland that a whole variety of approaches to vocational education and training can be researched with a view to seeking generalizable applications, but also the local authorities that are predominantly "Labour" in their politics seem to take a perverse pleasure in commissioning research that might produce critiques of, or alternatives to, the Conservative government's national policies.

Therefore, the research effort continues, although on a smaller scale, with a whole series of topics ranging from criterion-based assessment to learning by participation and taking a variety of stances ranging from objective (i.e., researcher-led) to subjective (i.e., government-controlled). The regrettable feature is that the government should feel it necessary to dictate to researchers. Since this publication attempts to demonstrate the consistency between government desires and research evidence, it would only improve programs (perhaps somewhat more slowly) if the researcher's independence was respected. But if a government devolves responsibility, does it also devolve the credit for successful policy and practice on which it depends for reelection?

SCOTLAND TODAY

As a people of a basically conservative and deferential nature, the Scots have tended to view their education and training deferentially and conservatively. It has long been the custom for a committee of "the wise and the good" to be appointed by central government to bring forward proposals for change. But, by the very nature of their origins, such committees have tended to propose changes that only moved government and the education system as far and as fast as they were willing to go. In other words, it has been innovation by gradualism.

Likewise in training, both by tradition and by a commitment to the old-fashioned "smokestack" industries with their very hierarchical systems of management and labor relations, Scottish industry has moved slowly and conservatively. Paradoxically, even the Labour party politics that have dominated Scotland for almost half a century have reinforced conservatism.

All of this is now changing. First, at the government level there is a recognition that gradualism is not sufficient to restore the economic health of the country and, both through the Scottish Education Department and the MSC, radical changes in education and training are under way. If the power of government is used intelligently and vigorously, teacher and trade union resistance to such changes will be overcome.

Second, within industry there are dramatic changes under way with the demise of the smokestack industries. These are being replaced by high-tech industries in computing, electronics, and offshore oil. Not only do these new industries have an internal structure that makes old styles of trade unionism and management impossible, but also many of them are run by companies from outside of Britain that are not constrained by typical British conservatism.

Third, within communications there is a multinational sharing of concepts concerning innovation. Partly through the mass media and easier travel, partly through cross-national organizations

such as the European Economic Community (EEC), it is difficult for any country to run its education and training system in isolation. Scotland and Britain are therefore infected by thinking from all over the world, which they attempt to reconcile with native thinking. To take only one simple example, the EEC funded a series of demonstration projects on "school to working life," and from the Scottish project came an approach to enterprise education called "mini-co" without which it would be difficult for the British government to meet one of its targets for 1986—to have pupils set up a miniature enterprise in every secondary school.

Fourth, the research and development end of vocational education and training does not stand still. Ideas such as learning by participation, vocational preparation, and involving local stakeholders are all being piloted and, armed with empirical findings, R&D experts then publicize their results as worthy of inclusion in any radical changes such as those currently under way in Scotland.

Not all of these trends are in harmony however. The government, for example, seems to imagine that salvation rests in high-tech solutions, despite the well-known findings such as those reported in a paper by Bud Hodgkinson quoted by Anne Lindeman (1984):

> [Bud] brings us back to earth by listing jobs that are likely to occupy the most people in the future: clerks and secretaries, janitors and sextons, restaurant workers, and health professionals. These are the major jobs in the future in terms of sheer numbers. High technology will consume no more than 9 or 10 percent of the employable work force. So we do not dare get carried away with the nice phrase "high tech" and think that is where the whole world is going to be. Business as usual in education is a crisis as well as a funding paradox (p. 2)

Researchers would agree with that and conclude that, therefore, the personal development needs of young people and the interpersonal requirements of modern industry indicate that the vocational curriculum should pay as much, if not more, attention to process as to content.

Likewise, there is not yet a harmony between the education and training interest groups, the one paying more attention to breadth and the other to depth, which leads to the following comment:

> The fact that people working for the MSC have their roots in the Department of Employment rather than in education has constantly pushed the Education versus Training debate into prominence and although a resolution of the areas of potential conflict would seem to lie in the new emphasis being given to the unity of vocational preparation, there are recent signs that a resolution may be achieved by the application of cash rather than philosophy. Resources talk. (Pratley, 1985 p. 25)

Although philosophy is still more powerful than cash alone in Scotland, the question remains, for how much longer? Furthermore, the piloting of new ideas by R&D experts is of little impact if government takes a skeptical view of the independent value of research and is less than receptive to any ideas that it has not sponsored.

Taking all this into account, however, it is still possible to see developments that are powerful enough to overcome these blockages. We are now more certain than ever about how to make innovation stick.

Through a sequence of networking, demonstration, evaluation, and system modification, we produce a culture based on people's "ownership" of change, which is likely to move vocational education and training in a direction that benefits society and has a force such that few governments could withstand it. That is certainly the model that I have tested, in the Social and Vocational Skills course, and which I can see gathering force.

If government can pay a little more attention to quality and less to speed, if education and training lobbyists can recognize that both aspire to personal development goals and that these can be met through partnership, not competition; if Scottish interests can be projected without apology; and if in the same manner of Scotland getting a due share of British resources, the localities of Scotland receive more autonomy; then the paradoxes outlined in this publication may be resolved. But, as a well-mannered guest in the United States, let me give the last word to an American:

> There are no standard solutions to the problems posed. . . . Solutions to these problems should be the product of local problem-solving, not only because there is no better way to assure that the solutions fit local circumstances, but also because the problem-solving process is an important device for building program strength and commitment. This is not to say, of course, that local planners cannot learn from solutions devised elsewhere. The experience of others is a valuable teacher, particularly because it has a real-world validity that speaks directly to other practitioners. But these experiences should be seen as a source of inspiration not imitation. (Dollar 1983, p. 161)

QUESTIONS AND ANSWERS

Douglas Weir

Question: You indicated that Scotland prefers the Scandanavian model to the German model. Will you explain?

We have had in Scotland, as in the rest of Britain, an expectation that the employer would provide most of occupational training, some of it in partnership with students' part-time atendance at some kind of college. The English have been in our position even more, because despite their claim to have comprehensive high schools, they still have a fairly selective secondary system; so do the Germans. What I think the Scots decided about 7 or 8 years ago was that we wanted to increase the proportion of all age groups staying on in public education. In part, this was quite clearly a means of putting cosmetic gloss on the unemployment figures, but also it was because we made certain decisions about personal development maturation that we felt could be better reached in a general liberal education framework than they could in an occupational/vocational framework. We said if people took specific occupational training, all that was ever going to happen was that they would be trained for today and there would not be a flexible, adaptable labor force.

We might be wrong, but that is the decision we made and we looked at countries such as Sweden. The Swedes have now decided they are going to have mass upper-secondary education and their children are not going to take jobs until they finish upper-secondary school at 18 or 19 years of age. That looked about right because it also meant that we would help to build up the pressure for university places. Remember that one of the things I said was that we have a double-edged desire in Scotland. We do not just want to be economically healthy, we want to get most people to university. So, if you can create more pressure through your upper-secondary tracks on to the universities, you are putting more pressure on government to create more university places and many native Scots' mothers and fathers are going to be much happier.

It is complicated, but basically we have decided we want to have upper-secondary schooling for all. We have decided that there are a number of reasons for that, one of which is personal development training for adaptability and change. We do not believe that a German model or an English model, which sees training in terms of specific jobs, is the way to go. So there is a very clear philosophical difference between the Scots and the English.

Question Can you describe how Scotland currently is helping youth make transitions to work? For example, are you offering courses in job search skills?

We have a very definite and comprehensive program for helping young people be placed in work. It takes a number of forms. First, it is very common for young people in Scotland, before they finish compulsory schooling at 16, to have had one or more short placements in industry, so they have had up to 3 weeks of work experience. Some experimental programs have gone further than that and young people in the last year of secondary school at age 15 have had 20-25 weeks of work experience in that last year session of approximately 42 weeks. The proportion of the age

group getting that type of work experience is rising very fast. I cannot give you today's figures, but more than half of our schools are offering direct work experience. In addition, about a quarter of the age group have part-time jobs of some sort, usually unofficially.

Second, we do have job placement services. We have a service called the Careers Service, which helps the counselors in the school take young people through the process of sorting out a career choice or potential career choice. In one of the sources I have quoted there is a mention of a system of computer-based guidance that was invented in Scotland. It is now being used extensively throughout Britain and in other parts of the world. The young person interacts with the computer database and has a school counselor and the external career officer to help. We also have a government job placement agency and it has its own professional staff who do not come into the school. The careers officer does visit the school but the students can also go to the job center, receive career counseling and career advice, and pick up job placements. So, in both areas we do tolerably well by international standards. We seem to have a fairly systematic and well-staffed system whereby students can get access to advice and placement.

Question: Can you tell us some more about European programs? How do they respond to young People's needs?

It becomes complicated when you talk about a European Community position because you are talking about 10 countries that do not even speak the same language or versions of the same language and have entirely different cultures. But in general terms I think any program is short-sighted which makes the principle objective securing access to working life. Future programs should be called "transition to adult life." There was a negative consequence of designing a transition-to-work program. It distorted the curriculum and actually increased the frustration and alienation that the young people felt. They said, "You're telling us this is a program to prepare us for work and there isn't any work." I am not just talking about Scottish unemployment terms of 15 percent but also about even higher Italian terms or Greek terms. We are talking about high rates of unemployment not likely to be reduced in this generation.

Question: How does your system work, through welfare or any other device, to deal with disadvantaged or handicapped groups?

Like other countries we do make funds available for "special populations" both in welfare benefits and MSC programs. I think that is the wrong way to go. To be labelled as a member of a special group is a stigma already, but to be told that because you are special you will enter a separate program is a second stigma which I believe is counter-productive. I am much more in favor of programs which make no great distinction for the disadvantaged or handicapped and which integrate them with the rest of the population.

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